



-1013 EcorI GAATTCATAAATGAACACGGCTGGTCAGGTGTAAAACTTCCTCCAGATTTTCGTAGGCTCCGTGTATAGCCATATAGTCAAGAAAAATACGTACGGGGGATTACAGG
-900 TCTGTACAAATGTACCCACGGAGCTCTGAACATACACCACATGCGATCCCGGGGGTACATCGCGGAGCTTAAGGTGCGGCGGAAAGGTCAGTGCACACCTACGGCCACCTGTGC
-780 ACCCAAGTGTGCGCTGGAGATGACCAATGTGGAGTGGTGTAGCTGTACATCCAGCTGCTGTAGCTGTATGCCGTGTACCCATAGCCCATCCCGCGGCGGAGGTGTGCAGTC
-660 TCCATTTGGCTGATCTACGAGAGCTGGATTTCTCCGACGATCTCTAATGGCTGTGCAATGGCCATGGCATACATATGTACATCTCGGTATTTGAAAATCTGGATCCGAAAAACTG
-540 GTCTATGGCTCGTGTGCGATGGCTGAACCAACGGCAACAAATTACTTACCTGTGTGTGATGGGTAAACACACATCACACACTTAGGCCATAGGGATGCTCACCGTAGCCG
-420 CGGCTCCAAATCGCTTGAAGAAGTCTCTTAGATCTAGTGGAACTCGGAGAAATGGCTTCTCGCCACGGGAGATCCGGCTGGGTGGGAGCATGGGTGCTGGAGCTGACCCACCGG
-300 CATCATGATCGACCGCTTCTCTTGGTACCTTCTGGCGGGCTCCAGGTGGCATCTCTGCTTCTTCTGAGCTGCTATCTGATAACTCTATGAGGACATTTTCCCAATCTCCCG
-180 CCGATACCTGTTCCTGCACAACCGAGGTAGATGGACTTCTTCTCCATGTTCTATCCAGGCGGGGACCGGCTGCTCTGTCCATTTGTCTGCAACAAAAGTGTGACTCACCA
-60 ACACCGACCCCTGTACCTATTAAAGAGGATGCTGCCCTAGAAATCGGTGGCGAGACAAATGGAGGAGCCTTGGCTGTGTGTCAGTACACCATCCAGAGCCTGATCCATCTCACGGGT
5' END MetGluAlaAlaLeuLeuValCysGlnTyrThrIleGlnSerLeuIleHisLeuThrGly 20

61 GAAGATCCTCGTITTTTCAATGTTGAGATTCCGGAATTCCTATTTACCCACAGATGCAATGTTTGCACGGCAGATGCTCAATGTAACATATCAATTCGATGTCGGGGGCAAAAAGCATCAA
GluAspProGlyPhePheAsnValGluIleProGluPheProPheTyrProThrCysAsnValCysThrAlaAspValAsnValThrIleAsnPheAspValGlyGlyLysLysHisGln 60

181 CTTGATCTTGACTTTGGCCAGCTGACACCCCATACGAAGGCTGTCTACCAACCTCGAGGTGCATTTGGTGGCTCAGAAAAATGCCACCAATCTCTTTCTACTGGAGCTCCTTGGTGCAGGA
LeuAspLeuAspPheGlyGlnLeuThrProHisThrLysAlaValTyrGlnProArgGlyAlaPheGlyGlySerGluAsnAlaThrAsnLeuPheLeuLeuGluLeuGlyAlaGly 100

301 GAATTCGCTCTAACTATCGCGTCTAAGAAGCTTCCAATTACGTCACCACCGAGAGGACCAACAAGTAAGCCTGGAAATCTGTAGATGCTTACTTCAAGATGCTGTTTGGAAACCATGTGG
GluLeuAlaLeuThrMetArgSerLysLysLeuProIleAsnValThrThrGlyGluGlnGlnValSerLeuValSerValAspValTyrPheGlnAspValPheGlyThrMetTrp 140

421 TCCACCATGCGAGAAATGCAAAACCCCGTGTACCTGATACCAGAAACAGTCCCATACATAAAGTGGGATAACGTAAATCTACCAATATACGGGCAGTAGTGAGGCACACAGGGGCTGGAT
CysHisHisAlaGluMetGlnAsnProValTyrLeuIleProGluThrValProTyrIleLysTrpAspAsnCysAsnSerThrAsnIleThrAlaValArgAlaGlnGlnGlyLeuAsp 180

541 GTCACGCTACCCCTTAAGTTTGCCAAGCTCAGCTCAAGACTCGAAATTCAGCGTAAAAACAGAAATGCTCGGTAAATGAGATAGATATTGAGTGTATTATGAGGATGCGCGAAAAATTCACAA
ValThrLeuProLeuSerLeuProThrSerAlaGlnAspSerAsnPheSerValLysThrGluMetLeuGlyAsnGluIleAspIleGluCysIleMetGluAspGlyGluIleSerGln 220

661 GTCTGCCCCGGAGACAACAAATTTAATCATCACCCTGCGAGTGGATACGAGAGCCCATGTTCCCGAGCGCGGGAATCTTCACATCAACGAGTCCCGTGGCCACCCCAATACCTGGTACAGGGTAT
ValLeuProGlyAspAsnLysPheAsnIleThrCysSerGlyTyrGluSerHisValProSerGlyGlyIleLeuThrSerThrSerProValAlaThrProIleProGlyThrGlyTyr 260

FIG. 1A

FIG. 1B

FIG. 1C

3781 CCTGCTGGCCCGGATGAAGACCACAACGTGGACCTAGGCCCTCTATGCCCGCCACCCGAGGGTCATGGGCTCATGCTGTGGGGCAGCACCTCCCGTCCGGTCACGTCATGTTGGCAT
3901 CATCGATCCCGGCTACACGGGGGAAC TCCGGCTAA TCCTCCAGAA TCAGCGGGGTACAATCCACGCTGCCATCGGAGCTCAAAATCCACCTGGCTGGCTTCAGATATGCCACCCCC
4021 CCAGATGGAGGAGGACAAGGGTCCCATCAACACCCCCAGTACCCCGGGGACGTGGGCCCTGGACGTCCTTTGCCAAAGGACCTGGCCCCCTCTCCCCCATCAGACCGTCTCAGTGACACT
4141 CACCGTGGCCCCCCCCTCTATCCCTCACCACAGGCCGACAACTCTTTGGCAGGTGGGCCCTGGCCATGCAAGGTATTCTAGTGAAGCCCTGCAGGTGGCGCCGGGTGGGGTGGACGTCAG
4261 CCTGACCAACTTATGTACCAGACCGTGTTCCCTAACAGTACCGGGCTCTGTACGCTTGTTACCTTCACAAGCACCACCTCACCTCCTCTACAGCCCCCACAGTGACGGGGGGT
4381 CCTTGGCCCCCAGATCTCTCTTTAGGTGGCCAGCTGCACCTTCGAGGAGGTGCCAGCCTGGCCATGGGTAGTGGGCTGAGGAGGCGCTCGAGGGGAGACAGGGGAGGGGTTTGG
4501 ATCCTCGGGTCAATGACACCTTCATATCCCTTGTTTACCAAIAAAATGTTATTGGTGTCGAGTCGTGCTACGTTAACGGAGCTCCGTGGGCCCAGAGTGTCTCCGGCTGCCCGCA
4621 CCACGGGAGCGGTGCAAGGACCGGGTGGGCACCTCGGGCTCAAAGCGGAGTTGATGAAGGGGCCGAGGCTGAGGGGGCGGTACCCGATGAGACAAGCGCCGAGATCTCTTCCGCCCC
4741 AGGCACCGGTCCTGTCATCTTGAGCGCCGTGGCCACCTTCTCCATCTCCATCAGGGCCAGGCTGTCCGACGCCCTGTGTCAGCAGGGCCTTGAGGCCATTCTCGTCCA TCTCGATGC
4861 CGCTTACAGCCAGAGAGATCATGGTATTCAGATGACTGAGGGCAGCGGCTCAAGCTT HINDIII

FIG. 1D

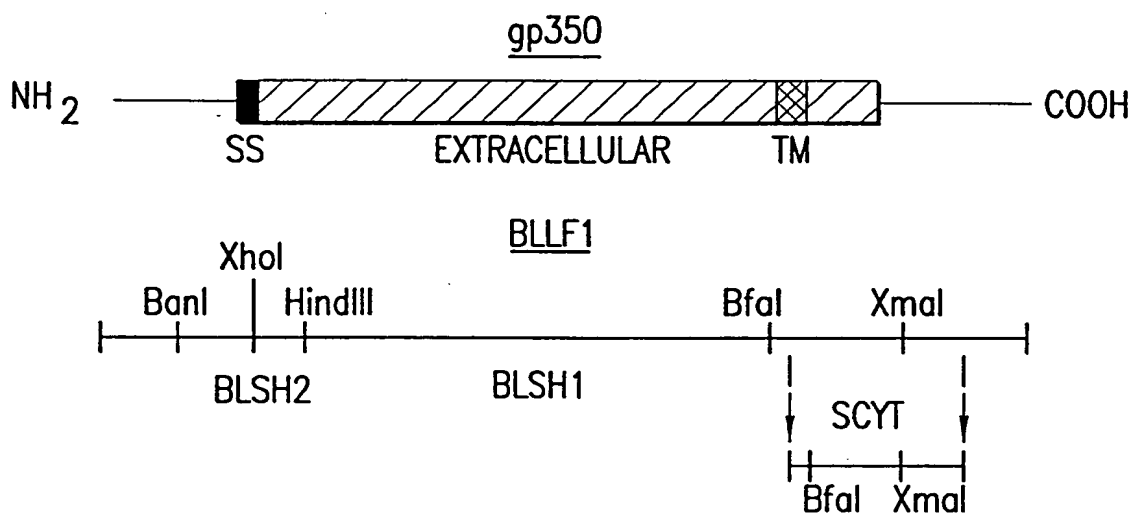


FIG. 2A

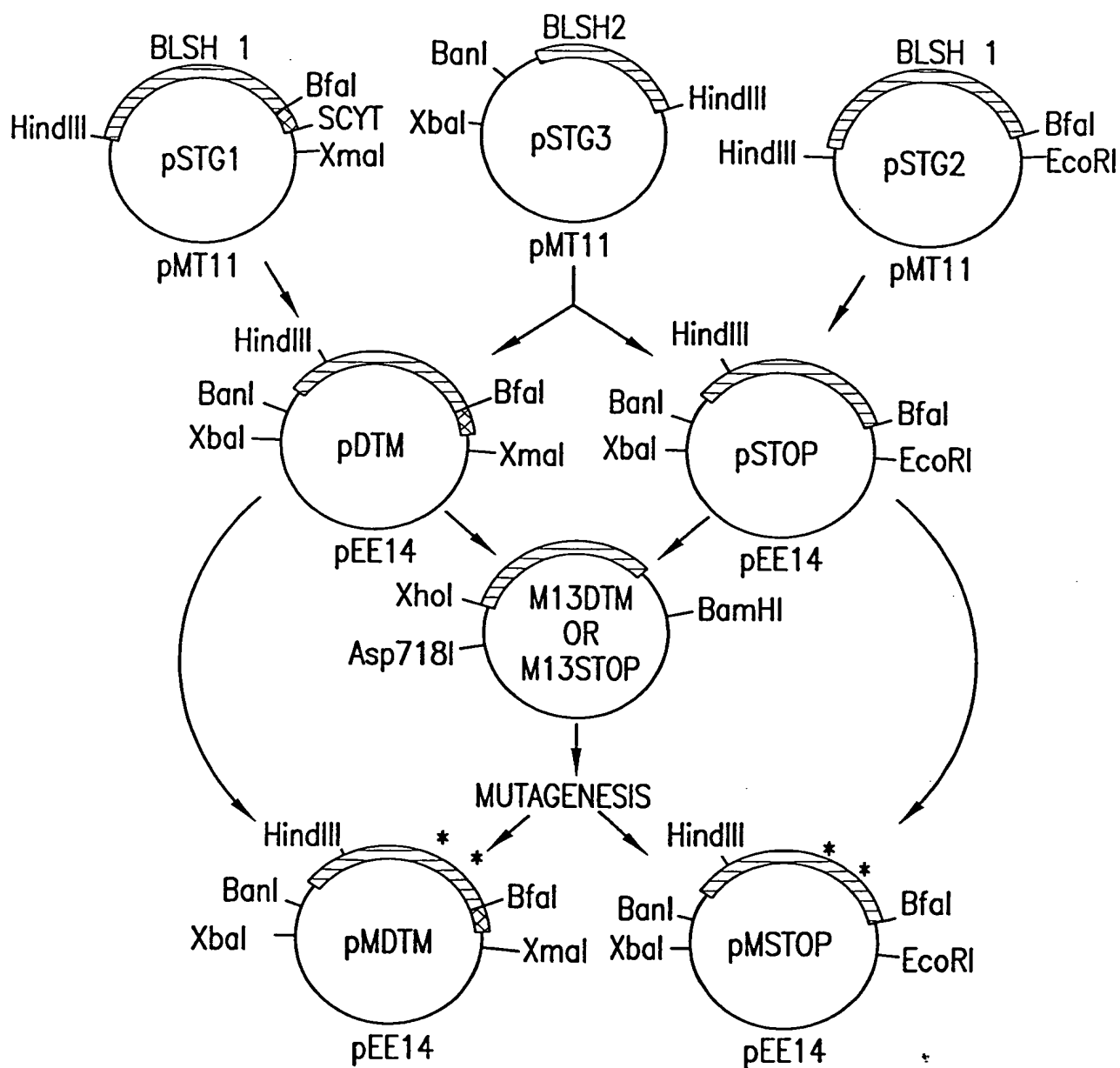


FIG. 2B

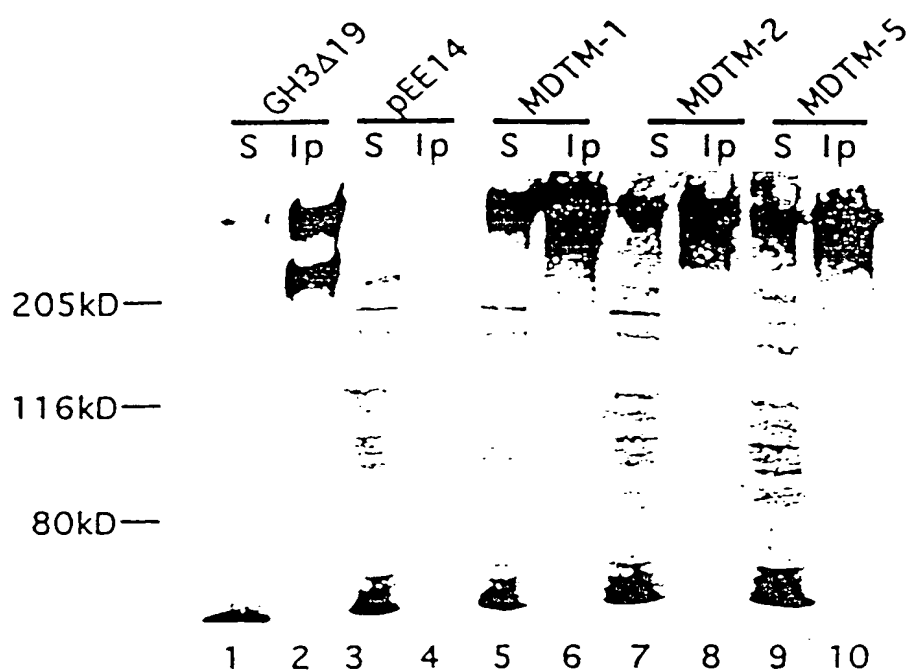


FIG.3